

an insulating shroud that lines an interior of said chamber, said insulating shroud being configured to be electrically floating during said processing; and

a perforated plasma confinement ring surrounding and disposed outside of an outer periphery of said bottom electrode, [a top surface of] said perforated plasma confinement ring being disposed in its entirety at or below a top surface of said substrate, said perforated plasma confinement ring being formed from an electrically conductive material and electrically grounded during said processing so as to increase ion energy during said processing by removing electrons from said plasma.

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C2 ~~23~~  
24. A perforated plasma confinement ring [device configured to be disposed] for confining a plasma inside a process chamber of a plasma [processing] reactor during processing of a substrate, the process chamber having a liner with either an electrically insulating material or a material that is electrically floating. the perforated plasma confinement ring comprising:

a conductive ring having an inner surface [and outer diameter, said inner diameter being] dimensioned to surround a bottom electrode disposed in said process chamber and a top surface arranged to be substantially parallel with a top surface of said bottom electrode when said conductive ring is surrounding said bottom electrode [plasma processing reactor, said bottom electrode providing support for a substrate to be processed, said bottom electrode being coupled to a first RF source having a first RF frequency, said bottom electrode being spaced apart from a top electrode, said top electrode being coupled to a second RF source having a second RF frequency, said second RF frequency being greater than said first RF frequency,] said conductive ring being formed from an electrically conductive material [a conductor] that is substantially resistant to etching by said plasma present within said chamber during said processing, said conductive ring being electrically grounded during said processing, said conductive ring having therein a plurality of perforations, said plurality of perforations being dimensioned to permit by-product gases from said processing to pass through while substantially confining a plasma to the upstream side of said conductive ring, and said conductive ring removing electrons from said plasma and thereby increasing ion energy in said plasma.

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C3 ~~33~~  
34. A perforated plasma confinement ring for containing a plasma inside a process chamber of a plasma [processing] reactor during processing of a substrate, the [perforated confinement ring being disposed between] plasma reactor including a bottom electrode and a side wall